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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/601,695 | 08/07/2000 | PAUL GRAHAM HOWARTH | A33405 | 8646 |

21003 7590 11/21/2003

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| EXAMINER |
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VOLPER, THOMAS E

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| ART UNIT | PAPER NUMBER |
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2665

DATE MAILED: 11/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/601,695

Applicant(s)

HOWARTH ET AL.

Examiner

Thomas Volper

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other:

DETAILED ACTION

Specification

1. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Objections

2. Claim 4 is objected to because of the following informalities: "of at least one" in line 4 should be changed to --at least one--. Appropriate correction is required.
3. Claim 7 is objected to because of the following informalities: Line 2 of claim 6 recites "a data array (CVi, CVo)" and claim 7 recites "said data array (CVi)" in line 3. Line 3 of claim 7 should be changed to recite "said data array (CVi, CVo)" for consistency. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Cloonan et al. (US 5,724,352).

Regarding claim 1, Cloonan discloses a scheduling means, embodied by controller (20) in Figure 5, that comprises a plurality of pipe controllers (24₀-24₃) to schedule traffic connections through the associated pipes (0-3). The series of pipe controllers in controller (20) represent the first pipeline stage, priority mixer means, and additional pipeline stage of the present invention. Cloonan discloses that requests have a respective priority, either R' or R'' (col. 22, line 27 – col. 23, line 19), and Figure 15 demonstrates a first set of requests according to priority (see set of

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requests for Controller 24₀). The Controller 24₁ of Figure 15 acts like the priority mixer of the present invention since it is shown to include additional requests $R'_{EFGH,i}$ and $R''_{EFGH,i}$ that are of different priorities, in addition to those requests not previously satisfied. Controller 24₂ of Figure 15 represents the additional pipe stage of the present invention since it includes additional requests to the set of those requests still not satisfied.

Regarding claim 2, Figure 15 shows a request set $R'_{ABCD,i}$, indicating a single priority, being applied to the first pipe controller at a time $i,6$.

Regarding claim 3, Figure 15 clearly shows that the priority level of requests sets being applied to the first pipe controller varies with time, and that the proportion of time given to each priority level is displayed on the left-hand side of the chart, i.e. time $i,0$ – time $i,7$ for instance.

Regarding claim 4, Figure 5 shows a further pipeline stage, pipe controller 24₃. Figure 15 shows that this further pipeline stage receives still more additional requests to the set of requests not yet satisfied.

Regarding claim 5, it has been mentioned above that pipe controller 24₁ may act as the priority mixer of the present invention. Figure 5 shows that this controller 24₁ appears before the controller 24₃, which has been deemed to represent the at least one further pipeline stage of the present invention.

Regarding claims 6 and 7, Cloonan discloses connect vectors that are used to establish connections within the switch fabric (14a) (col. 8, lines 9-59; see also Figure 13D).

Regarding claim 8, Figure 15 demonstrates the first pipeline stage may inhibit some connections from being satisfied because some requests are carried over from the first stage pipeline controller to the next stage pipeline controller.

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Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Lyles et al. (US 5,590,123) Device and Method for use of a Reservation Ring to Compute Crossbar Set-Up Parameters in an ATM Switch

- Yamanaka et al. (US 5,953,341) Contention Control Circuit

- Wicki et al. (US 5,838,684) Low Latency, High Clock Frequency Plesioasynchronous Packet-Based Crossbar Switching Chip System and Method


7. Any inquiry concerning this communication, or earlier communications from the examiner should be directed to Thomas Volper whose telephone number is 703-305-8405 and fax number is 703-746-9467. The examiner can normally be reached between 8:30am and 6:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached at 703-308-6602. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Thomas E. Volper

TEV

November 5, 2003


HUY B. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600